

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A computer-implemented method for generating and using a
2 mapping scheme, the method comprising:
3 receiving commands from a user, wherein said commands establish a mapping
4 between one or more attributes of a source and one or more attributes of a
5 target;
6 ~~wherein a plurality of attributes of said source are related to each other according to a~~
7 ~~first hierarchy that includes multiple hierarchical levels;~~
8 ~~wherein a plurality of attributes of said target are related to each other according to a~~
9 ~~second hierarchy that includes multiple hierarchical levels;~~
10 ~~wherein said commands establish, in said mapping, that a particular hierarchical level~~
11 ~~of said source is mapped to a particular hierarchical level of said target,~~
12 ~~wherein said particular hierarchical level of said source is at a different depth,~~
13 ~~within said first hierarchy, than the depth of said particular hierarchical level of~~
14 ~~said target within said second hierarchy; and~~
15 based on said commands, automatically generating a mapping scheme that represents
16 said mapping, wherein said mapping includes at least one of:
17 multiple attributes of said source mapped to a single attribute of said target;
18 and
19 multiple attributes of said target mapped to a single attribute of said source;
20 and
21 using said mapping scheme to perform a single transformation that moves a set of
22 data directly from said source into said target without materializing the entire
23 set of data separate from said source and said target during said
24 transformation;
25 wherein said source is one of a relational database and an XML document and said
26 target is the other of said relational database and said XML document.

1 2-3. (Canceled)

1 4. (Original) The method of claim 1, wherein said mapping scheme further includes
2 instructions on how to collapse a number of attributes of said source into a smaller
3 number of attributes of said target.

1 5. (Original) The method of claim 1, wherein said mapping scheme further includes
2 instructions on how to expand a number of attributes of said source to a greater
3 number of attributes of said target.

1 6. (Original) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a condition, and an action associated with the condition; and
4 the method further comprises the steps of
5 performing an operation that includes converting data, based on said mapping
6 scheme, from the source to a format associated with the target;
7 during performance of said operation, performing the steps of
8 determining whether the condition is satisfied; and
9 if the condition is satisfied, then performing said action.

1 7. (Original) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a specific set of instructions; and
4 the method further comprises the steps of
5 performing an operation that includes converting data, based on said mapping
6 scheme, from the source to a format associated with the target; and
7 during performance of said operation, executing the specific set of instructions
8 to affect said operation.

1 8. (Original) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 declares a variable to which values can be assigned; and

4 the method further comprises the steps of
5 performing an operation that includes converting data, based on said mapping
6 scheme, from the source to a format associated with the target; and
7 during performance of said operation, using said variable.

1 9. (Original) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a precompiled routine; and
4 the method further comprises the steps of
5 performing an operation that includes converting data, based on said mapping
6 scheme, from the source to a format associated with the target; and
7 during performance of said operation, calling said precompiled routine to
8 affect said operation.

1 10. (Previously Presented) The method of claim 1, further comprising:
2 reading source data definition that includes information about said plurality of
3 attributes of said source;
4 reading target data definition that includes information about said plurality of
5 attributes of said target; and
6 based on said source data definition and said target data definition, presenting to said
7 user an interface that identifies said plurality of attributes of said source and
8 said plurality of attributes of said target;
9 wherein said step of receiving commands from said user is performed by receiving
10 said commands through said interface.

1 11. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 includes instructions on how to collapse a number of hierarchical levels of said source
3 into a smaller number of hierarchical levels of said target.

1 12. (Previously Presented) The method of claim 1, wherein said mapping scheme
2 includes instructions on how to expand a number of hierarchical levels of said source
3 to a greater number of hierarchical levels of said target.

1 13-16. (Canceled)

1 17. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 1.

1 18-19. (Canceled)

1 20. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 4.

1 21. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 5.

1 22. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 6.

1 23. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 7.

1 24. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 8.

1 25. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 9.

1 26. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 10.

1 27. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 11.

1 28. (Original) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 12.

1 29-32. (Canceled)

1 33. (New) The method of claim 1, wherein:
2 a plurality of attributes of said source are related to each other according to a first
3 hierarchy that includes multiple hierarchical levels;
4 a plurality of attributes of said target are related to each other according to a second
5 hierarchy that includes multiple hierarchical levels; and
6 said commands establish, in said mapping, that a particular hierarchical level of said
7 source is mapped to a particular hierarchical level of said target, wherein said

8 particular hierarchical level of said source is at a different depth, within said
9 first hierarchy, than the depth of said particular hierachal level of said target
10 within said second hierarchy.

1 34. (New) The method of claim 1, wherein said single transformation is performed by
2 executing commands defined in a programming language that supports operations to
3 fetch said set of data directly from said source and store said set of data directly into
4 said target.

1 35. (New) The method of claim 1, wherein:
2 said mapping scheme includes instructions which define that operations included in
3 said single transformation are grouped to represent a transaction; and
4 using said mapping scheme to perform said single transformation further comprises
5 performing said operations in said transaction.

1 36. (New) A computer-readable medium carrying one or more sequences of instructions
2 which, when executed by one or more processors, causes the one or more processors
3 to perform the method recited in Claim 33.

1 37. (New) A computer-readable medium carrying one or more sequences of instructions
2 which, when executed by one or more processors, causes the one or more processors
3 to perform the method recited in Claim 34.

1 38. (New) A computer-readable medium carrying one or more sequences of instructions
2 which, when executed by one or more processors, causes the one or more processors
3 to perform the method recited in Claim 35.